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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,127	06/20/2003	Douglas L. Heirich	P3184/2882P	8959

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EXAMINER	
BROUSSARD, COREY M	
ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/600,127	HEIRICH ET AL.	
	Examiner	Art Unit	
	Corey M. Broussard	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign mentioned in the description: "121" page 7 lines line 13 of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The recited limitation in claim 1 and 9 of a circuit board having a known orientation relative to the mounting module and a variable orientation relative to the chassis is not enabled by the specification. The applicant does little more than simply state that this effect is achieved without essential details as to how and why it is achieved. It would stand to reason that if the circuit board has a known orientation to the mounting module, and the mounting module is rigidly coupled to the chassis, then circuit board would rigidly maintain its orientation with the chassis.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 5, 8, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to the "spring-loaded mount" recited in claims 5 and 13, the specification fails to adequately describe how this feature

"determines the equilibrium position of the board relative to the heatsink" (page 8 lines 15-18 of the specification). It would seem a spring loaded mount may provide the variable orientation of the preceding claims, but it is unclear how this feature is utilized. The drawings lack the spring loaded mount's element number 121, but show what appears to be a spring mount in Fig. 4B. But this spring mount in 4B isn't present in Fig. 4C. The spring mount in 4B is also labeled as a standoff, which conflicts with the standoffs (150) in Fig. 4C, 8A, and 8B. These contradictions further confuse the subject matter of the claimed invention inhibiting one skilled in the art to reproduce the invention.

7. With respect to the "pin features" recited in claim 8, the specification fails to adequately describe this element. Fig. 6A, and 6B labels certain elements as "locator pins" but the specification's description of the pin features (page 8 lines 19-22 of the specification) don't seem to include these elements.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-4, and 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ku (PN 6,384,331). With respect to claim 1, Ku teaches a chassis (3); a mounting module (4) rigidly coupled to the chassis (col. 5 lines 37-41), the mounting module for cooling the computer assembly (the mounting module 4 contains a heat sink col 3 lines 57-59); and at least one circuit board (2) suspended from the module (see Fig. 5), wherein the at least one circuit board having a known orientation relative to the module (see Fig. 5, the circuit board and heat sink are bolted together via threaded bolts 42) and at least one circuit board having a variable orientation relative to the chassis (the shock absorbing pad 16 is for stabilizing a support plate fixed to the chassis when subjected to an impact force, therefore the circuit board must move and change orientation relative to the chassis when subjected to an impact force).

10. With respect to claim 2, Ku teaches a stabilization support mechanism (42 and 23, see col 5 lines 37-41) for ensuring that the at least one circuit board remains in the known orientation relative to the module (see Fig. 5).

11. With respect to claim 3, Ku teaches a heat sink (4 contains a heat sink col 3 lines 57-59); and a daughter board (2) coupled to the heat sink, wherein the daughter board includes a processor (21).

12. With respect to claim 4, Ku teaches wherein the processor (21) is in contact with the at least one circuit board (col 3 lines 59-61).

13. With respect to claim 9, Ku teaches a heat sink (4) assembly for cooling the computer assembly, wherein the heat sink assembly is coupled rigidly to a chassis (3) of the computer assembly and is also coupled to a printed circuit board (2) within the

computer assembly (see Fig. 5), wherein the printed circuit board has a known orientation relative to the module (see Fig. 5, the circuit board and heat sink are bolted together via threaded bolts 42) and a variable orientation relative to the chassis (the shock absorbing pad 16 is for stabilizing a support plate fixed to the chassis when subjected to an impact force, therefore the circuit board must move and change orientation relative to the chassis when subjected to an impact force).

14. With respect to claim 10, Ku teaches a stabilization support mechanism (42 and 23, see col 5 lines 37-41) for ensuring that the at least one circuit board remains in the known orientation relative to the module (see Fig. 5).

15. With respect to claim 11, Ku teaches a heat sink (4 contains a heat sink col 3 lines 57-59); and a daughter board (2) coupled to the heat sink, wherein the daughter board includes a processor (21).

16. With respect to claim 12, Ku teaches wherein the processor (21) is in contact with the at least one circuit board (col 3 lines 59-61).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 5-8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ku (PN 6,384,331) in view of Bartyzel (PN 6,331,937). With respect to claim 5, Ku

teaches the device as applied to claim 3 above, but lacks a spring-loaded mount. Bartyzel teaches using spring-loaded bolts (14) to couple a heat sink (3) to a daughterboard (2). It would have been obvious to a person of ordinary skill in the art to combine the spring loaded mount of Bartyzel with the plate reinforced heat sink mount of Ku for the benefit of a heat sink mount where the heat sink engages the processor with a constant force preventing damage to the processor.

19. With respect to claim 6, Ku teaches the printed circuit board (2) is mounted to the chassis (3) via a plurality of standoffs and fasteners (144, 42) at its periphery (see Fig. 5).

20. With respect to claim 7, Ku teaches wherein the fasteners (42) of the printed circuit expand longitudinally within the apertures (23) in the daughter board (2) to secure the circuit board (2) to the heat sink assembly (4).

21. With respect to claim 8, wherein the heat sink assembly (4) is located relative to the at least one printed circuit board (2) via pin features (42).

22. With respect to claim 12, Ku teaches the device as applied to claim 11 above, but lacks a spring-loaded mount. Bartyzel teaches using spring-loaded bolts (14) to couple a heat sink (3) to a daughterboard (2). It would have been obvious to a person of ordinary skill in the art to combine the spring loaded mount of Bartyzel with the plate reinforced heat sink mount of Ku for the benefit of a heat sink mount where the heat sink engages the processor with a constant force preventing damage to the processor.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cohen (PN 6,549,410), Shaeffer at al. (PN 6,460,170), Davis et al. (PN 6,542,366), and Ariga (US Pub 2003/0011986) demonstrating the general state of the art of heat sink, circuit board, and chassis mounts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey M. Broussard whose telephone number is 571 272 2799. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on 571 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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